

Flight Scientist Report

Wednesday 09/16/2020 ACTIVATE RF35

Flight Type: Process Study Flight – work a wall east of ZIBUT

Flight Route: KLFI ATLC ZIBUT 3632N07128W 3711N07110W 3649N07120W  
3711N07110W 3649N07120W 3711N07110W 3649N07120W 3711N07110W 3632N07128W  
ZIBUT ATLC KLFI

Special Notes: The King Air was limited owing to failing TCAS and so no HSRL-2 and dropsonde capability today. We decided to stick to a wall pattern for the Falcon just east of ZIBUT and still have UC-12 for RSP data.

This was a unique day in that there were easterly winds and so the area we flew on the way and back to/from ZIBUT is air that originated in the area that we did the wall profiling. It is a good day to examine cloud processing of air to the west of ZIBUT as that was likely cloud processed earlier.

Clouds were note as extensive as forecasted, which is a good case of model overprediction of cloud to go along with cases we have flown this summer where models underpredicted cloud fraction.

RF34 and 35 had fascinating thermodynamic structure

Still some smoke today

**King Air**

TCAS still not working so no HSRL-2 or dropsondes

RSP functioned well

Conducted a wheel-spoke pattern inside a circle east of ZIBUT

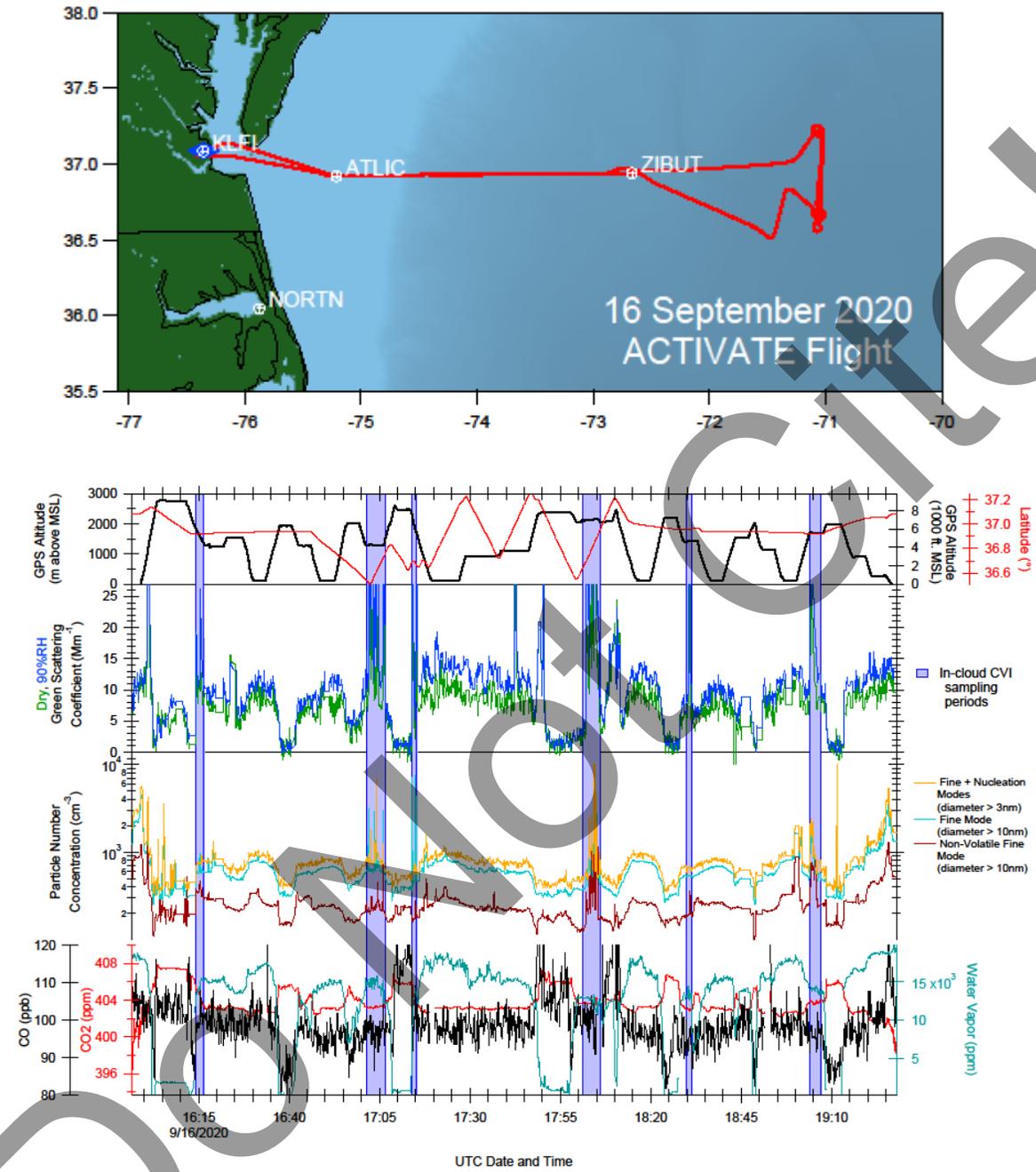
**Falcon**

CCN counter failed all flight

Fairly clean all flight

Conducted a wall pattern inside a circle east of ZIBUT; it went well in terms of getting good cloud sampling and even one cloud water sample in the BCT leg.

Rich Moore Quicklook Images:



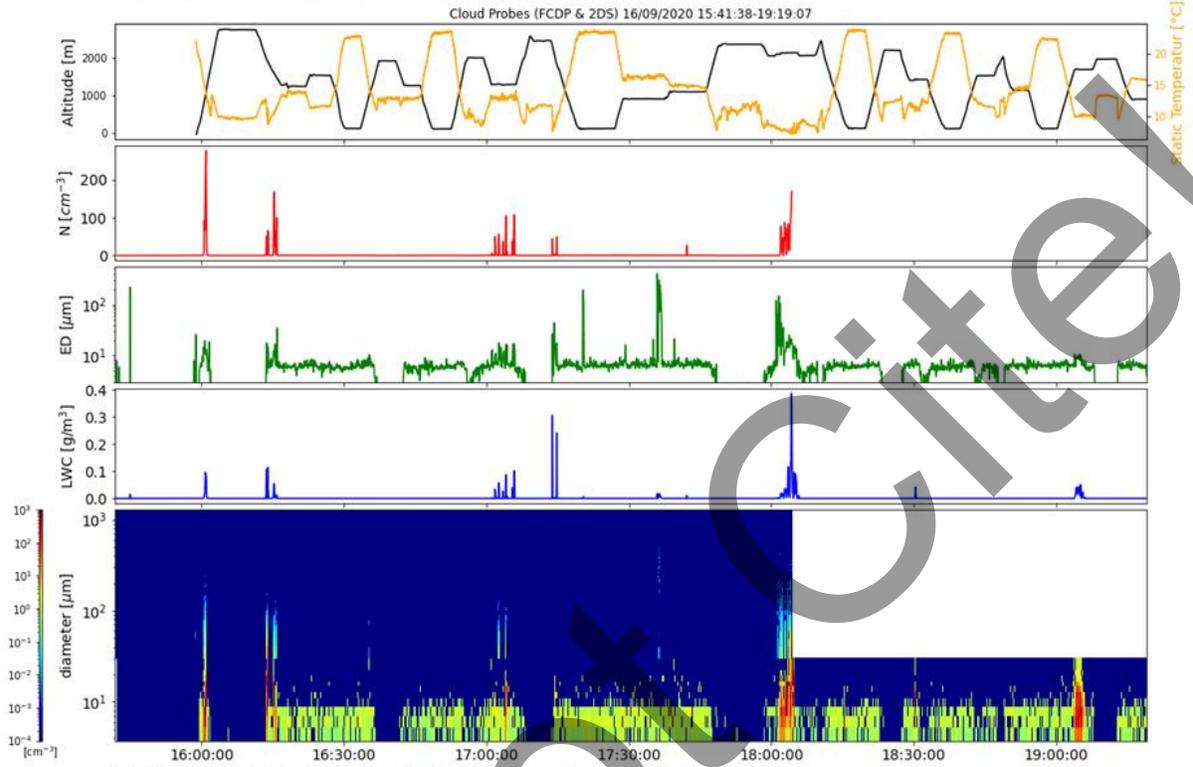
# Quicklook ACTIVATE Cloud Probes (FCDP & 2DS)

preliminary data, only for quicklook use

Simon Kirschler, Raphael Märkl, Christiane Voigt, Richard Moore, Ewan Crosbie



Cloud Probes (FCDP & 2DS) 16/09/2020 15:41:38-19:19:07

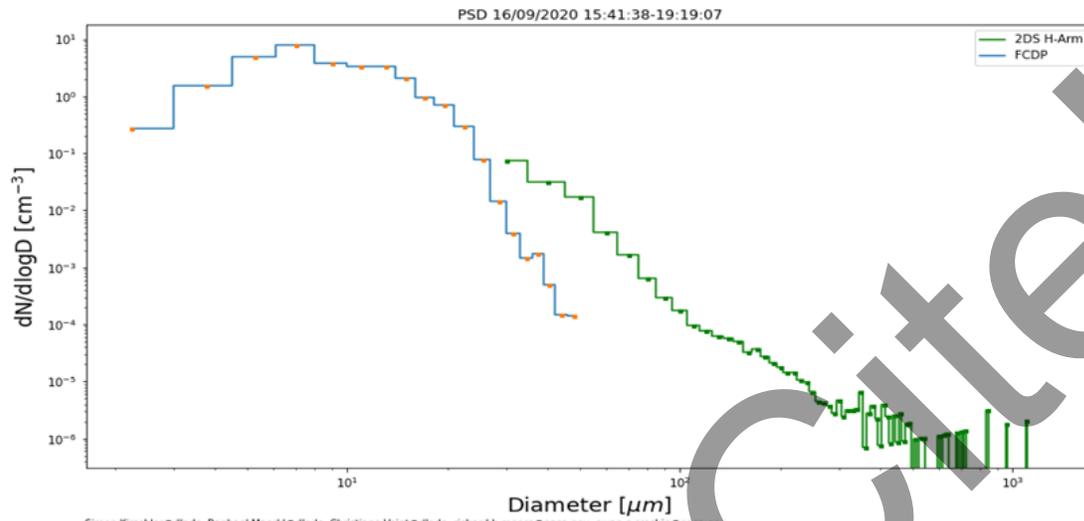


Simon.Kirschler@dlr.de, Raphael.Maerkl@dlr.de, Christiane.Voigt@dlr.de, richard.h.moore@nasa.gov, ewan.c.crosbie@nasa.gov

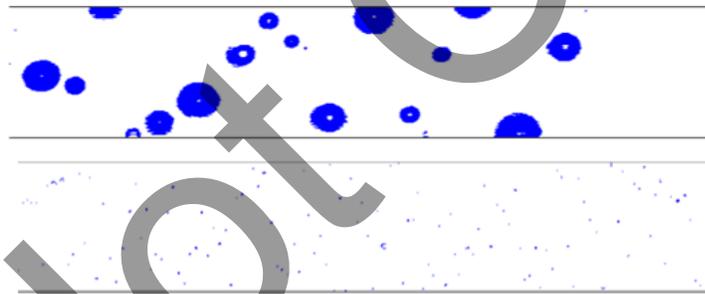
Do Not Cite!

# PSD ACTIVATE

preliminary data, only for quicklook use  
Simon Kirschler, Raphael Märki, Christiane Voigt, Richard Moore, Ewan Crosbie

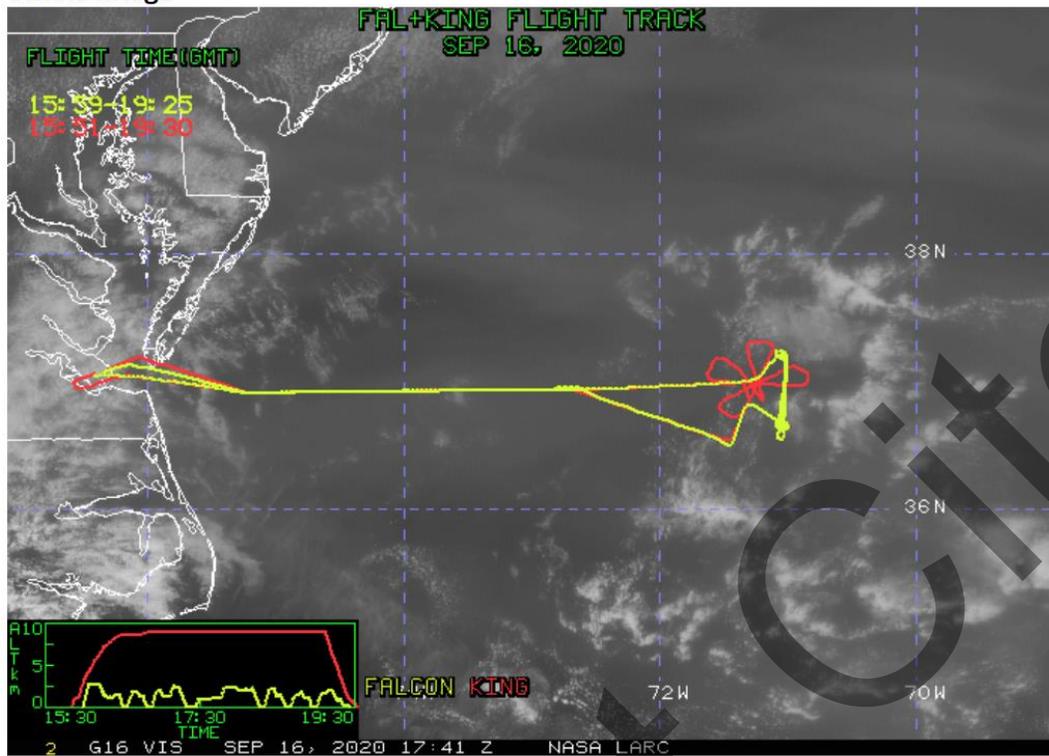


-pure liquid clouds

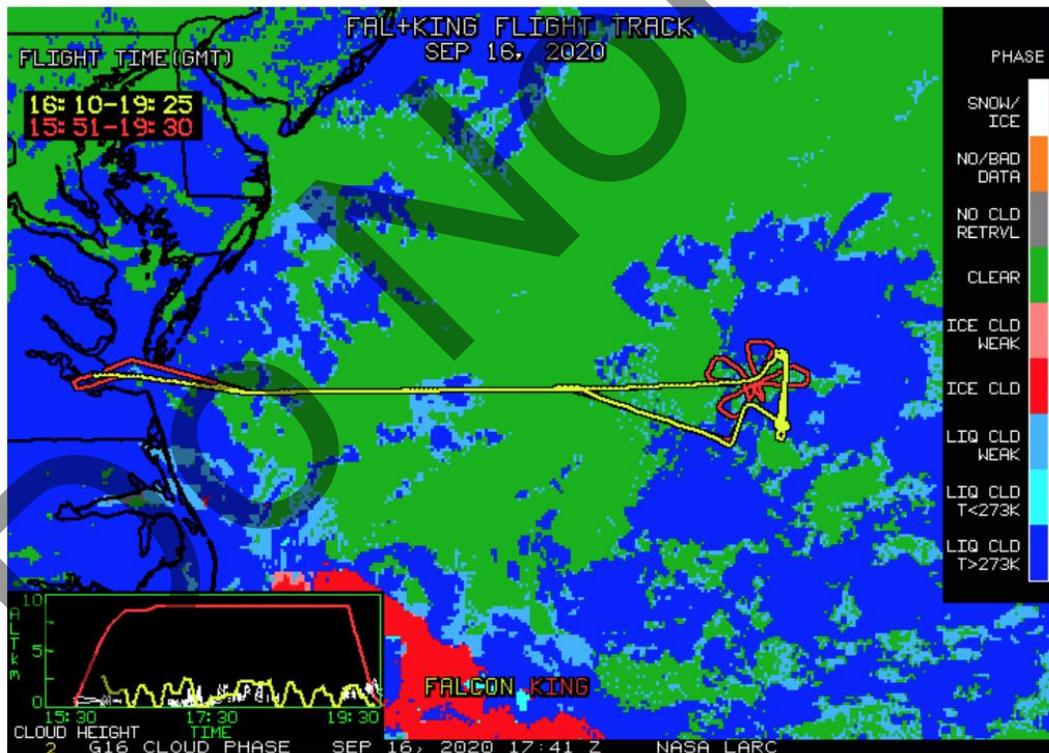


NASA-LaRC Clouds Group GOES-16 Quicklook Images for Flight 35, 1741 UTC Sep 16, 2020

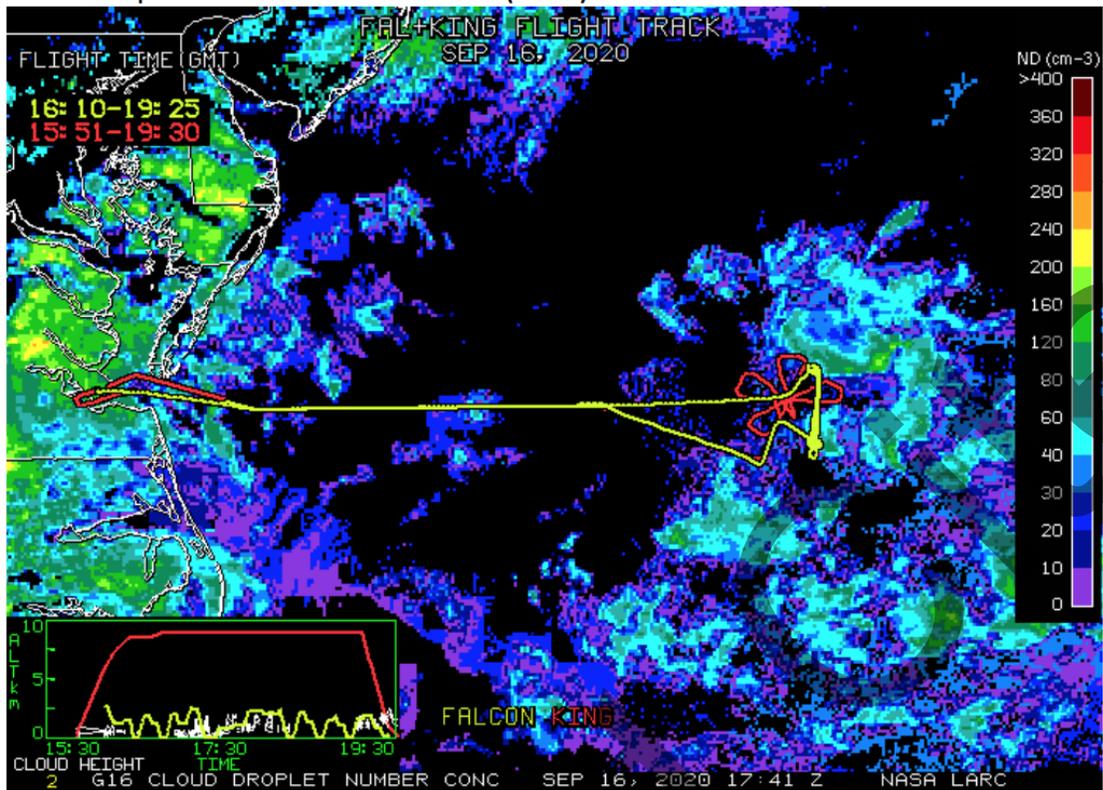
### Visible Image



### Cloud Phase



### Cloud Droplet Number Concentration (cm-3)



### Cloud-Top Height (Kft-ASL)

